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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/766,719	01/27/2004	William A. Peterson	510/3x2	3461
27538	7590	08/11/2004	EXAMINER	
KAPLAN & GILMAN , L.L.P.			DUDA, RINA I	
900 ROUTE 9 NORTH			ART UNIT	
WOODBIDGE, NJ 07095			PAPER NUMBER	
			2837	

DATE MAILED: 08/11/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/766,719

Applicant(s)

PETERSON, WILLIAM A.

Examiner

Rina I Duda

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 1/27/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### ***Double Patenting***

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1-14 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-3, 13-17, and 28-29 of copending Application No. 10233725. Although the conflicting claims are not identical, they are not patentably distinct from each other, the only difference between the patented claims and the pending claims is that the pending claims are broader, but both sets of claims are directed to the "same invention".

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-14 are rejected under 35 U.S.C. 102(e) as being anticipated by Birkestrand et al (US Patent 6342769).

Claims 1-3, 7-9, 11, Birkestrand et al disclose a control system for an electric motor comprising means 208 for monitoring the level of voltage in the power source, a control circuit 172/174 for sensing back-emf in the windings of motor 44a, and means for converting kinetic energy of the motor into power which is supplied to the control circuit when the level of voltage in the power supply has fallen below a threshold level in order to maintain synchronization with the motor when working with a synchronous machine, see column 9 lines 48-67, column 10 lines 1-55, and column 11 lines 12-61.

Claims 4 and 10, Birkestrand et al describe in column 10 lines 28-38 that switch 188 allows boosting of the back-emf in order to produce the operating voltage for the control circuit.

Claims 5, 6, and 12-14 Birkestrand et al describe that the control circuit 172/174 provides commutation signals to a motor driver circuit 162 in order to produce motoring torque during a motoring mode and also stops the motoring mode to be able to convert kinetic energy when the motor is the generating mode without stopping and restarting the motor.

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 5, and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Patton, III (US patent 5889629).

Claims 1 and 7, Patton, III teaches a method for controlling an electric motor comprising monitoring means 46 for monitoring the level of power in the power supply 50 which supplies power to control circuit 24, wherein control circuit 24 obtains back emf from motor 30 and converts the back emf into electric energy that would be used by motor 34 when monitoring means 46 determines that the power level of the power supply 50 has fallen below a threshold level, as described in column 4 lines 29-52 and column 5 lines 19-49.

Claim 5, Patton, III describes that control circuit 24 provides commutation commands signals to motor driver 22 for commutating the windings of motor 30 when the level of power is close to the threshold in order to produce motoring torque and sends control signals to convert the kinetic energy obtained from motor 30 into electric power for motor 34, see figure 1 and the description of said figure.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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8. Claims 2-4, 6, and 8-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Patton, III (US patent 5889629) and Holling et al (US patent 5990643).

The only difference between the teachings of Patton, III and the subject matter of claims 2-4, 6, and 8-14 is that Patton, III does not specifically describe that the bemf is used to determine the position of the motor. Although one person skilled in the art knows that determining the position of the motor using a sensorless method such as bemf sensing technique is well known, the examiner introduces the teachings of Holling et al to show how to determine the position of the motor using bemf.

Holling et al teaches a sensorless commutation position detecting method comprising a multiplexer 20 for selecting the off/open motor winding, measuring the bemf in the off-winding, and comparing the said bemf with a reference voltage to determine the position of the motor.

Therefore, it would have obvious to one person of ordinary skill in the art to use the bemf voltage of motor winding to determine the position of the motor since said technique provides a sensorless, cost effective, and accurate continuous position detection throughout all operational conditions of the motor.

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The documents cited in form PTO-892 teach other systems for controlling electric motors using bemf, these documents must also be reviewed before responding to this office action, since said documents (specially US patent 5633568) could also be used to reject claims 1-14.


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10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rina I Duda whose telephone number is 571-272-2062.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Martin can be reached on 571-272-2800 ext. 37. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RD

  
RINA DUDA  
PRIMARY EXAMINER